I/WE CLAIM

1. A cooking appliance comprising:

a cooking chamber;

a toroidal-shaped waveguide including inner and outer walls, and a bottom surface which collectively define an interior portion exposed to the cooking chamber, said bottom surface including a plurality of microwave transparent regions;

a magnetron for emitting a microwave energy field having a defined wavelength directed to the toroidal-shaped waveguide;

a tubular feed member extending between the magnetron and the toroidal-shaped waveguide, said tubular feed member directing the microwave energy field from the magnetron to the toroidal-shaped waveguide; and

a field flux generator including a field flux emitter arranged along the tubular feed member, said field flux generator shifting the microwave energy field prior to entry into the toroidal-shaped waveguide in order to create a uniform cooking environment for the cooking chamber.

2. The cooking appliance according to claim 1, wherein the field flux generator produces a magnetic energy field.

3. The cooking appliance according to claim 2, wherein the field flux generator operates on a pulsed DC current.

4. The cooking appliance according to claim 2, wherein the field flux generator is operated on a rectified AC signal.

5. The cooking appliance according to claim 2, wherein the field flux generator is operated on AC current.

6. The cooking appliance according to claim 1, wherein the field flux generator produces an electrical field to shift the microwave energy field.

7. The cooking appliance according to claim 6, wherein the field flux generator operates on a pulsed DC current.

8. The cooking appliance according to claim 6, wherein the field flux generator is operated on a rectified AC signal.

9. The cooking appliance according to claim 6, wherein the field flux generator is operated on AC current.

10. The cooking appliance according to claim 1, wherein the field flux generator includes a plurality of field flux emitters, each of the plurality of field flux emitters being located at a point on the tubular feed member where the microwave energy field is at a maximum.

11. The cooking appliance according to claim 1, wherein the tubular feed member includes a length equal to an integer multiple of one half of the wavelength (1/2 λ) of the microwave energy field.

12. The cooking appliance according to claim 1, wherein the cooking appliance is constituted by a dual wall oven.

13. The cooking appliance according to claim 2, wherein the interior portion of the toroidal-shaped waveguide includes a centerline diameter, said tubular feed member aligning the microwave energy field with the centerline diameter of the toroidal-shaped waveguide.

14. The cooking appliance according to claim 13, wherein the centerline diameter includes a length equal to three times the wavelength (3λ) of the microwave energy field.

15. The cooking appliance according to claim 1, further comprising: a waveguide cover provided between the bottom surface of the toroidal-shaped waveguide and the cooking chamber.

16. The cooking appliance according to claim 1, wherein the tubular feed member has a circular cross-section.

17. A method of introducing a microwave energy field into a cooking chamber through a toroidal-shaped waveguide comprising:

operating a magnetron to generate a microwave energy field;

directing the microwave energy field into a tubular feed member extending between the magnetron and the toroidal-shaped waveguide;

generating a field flux in the tubular feed member to shift a wavelength of the microwave energy field to establish a plurality of high energy standing microwaves; and

directing the plurality of high energy standing microwaves from the tubular feed member through the toroidal-shaped waveguide into the cooking chamber to perform a cooking operation.

18. The method of claim 17, wherein generating the field flux is constituted by producing a magnetic field about the tubular feed member.

19. The method of claim 17, wherein generating the field flux is constituted by producing an electrical field about the tubular feed member.

20. The method of claim 19, wherein the step of generating the field flux is constituted by operating a field flux generator on a pulsed DC current.

21. The method of claim 19, wherein the step of generating the field flux is constituted by operating a field flux generator on a rectified AC signal.

22. The method of claim 19, wherein the step of generating the field flux is constituted by operating a field flux generator on an AC current.

23. The method of claim 16, further comprising: generating the field flux through a plurality of flux field emitters positioned along the tubular feed member.

24. The method of claim 17, further comprising: creating constructive wave interferences by combining the plurality of high energy standing microwave with a microwave energy field already in the toroidal-shaped waveguide.